Teaching for Quality (Te4Q)

Marshall University School of Medicine
8/11/14 – 8/12/14

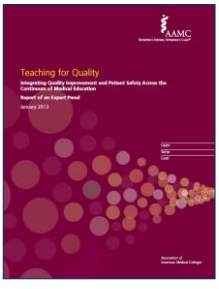
Our Faculty

Nancy Davis, PhD

Robert Flora, MD

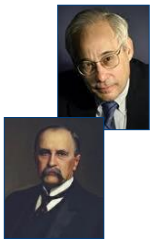
Why Teaching for Quality?

The Te4Q Vision:
Quality Improvement is core to what it means to be a physician



Te4Q Recommendation

"Every academic health center will have a critical mass of faculty ready, able and willing to engage in, role model, and teach about patient safety and the improvement of health care"



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The Te4Q Faculty Development Program

Moving 'QI/PS savvy' clinicians to expert QI educators

Clinical faculty as:

- Teachers
- Curriculum developers
- Evaluators, competency assessors
- Educational Quality Improvers
- Change Agents
- Leaders
- Role Models
- Mentors/peer advisers

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Faculty Learners

Proficient	Expert	Master
Core knowledge of QI/PS Common language Doing basic improvement in practice Modeling w/learners Prepared as good improvement team member Participating in MOC Part IV	Proficient, plus… Increased experience in QI/PS projects (eg. lead) Leader in education and curricular implementation Able to create experiential and didactic learning activities for students, residents, others Able to understand and create metrics to assess learner progress	Expert, plus… Curricular reform and/or clinical leadership roles related to QI/PS Scholarship in QI/PS Career focus in QI/PS

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The Te4Q Faculty Development Certificate Program

- Pre-Req: Experience with QI/PS
- Self- & Organizational-Readiness Assessments
- Pre-reading
- Skill Building Workshop
- QI Educational Project w/presentation in 3 mo.
- Community of Practice
- Dissemination of Work—Presentation or Publication
- Certificate (suitable for framing)

Te4Q Workshop Objectives

- Address an identified gap in the education of students, residents, and/or practicing clinicians regarding quality improvement and patient safety
- Design an educational innovation to fill that gap
- Effectively implement the initiative
- Enable and lead organizational change
- Assess the impact of the innovation on learners and the larger community

Workshop Agenda

Introductions

Adult Learning Principles: Knowing Your Learners

- Identify Gaps
- Learner Levels/Competencies
- Educational Program Goals and Objectives
- Interprofessional Education
- Educational Design: effective formats for learning

Reflection & Feedback

Developing QI/PS Content

- What to Teach
- Teaching & Learning in the Clinical Environment
- Examples from the Field (UME/GME/CPD)

Workshop Agenda

Assessing the Impact I
- Learner Assessment
- Formative vs Summative Feedback

Assessing the Impact II
- Program Evaluation

Reflection & Feedback

Making the Case & Leading Change
- Creating a Strategy for producing change
- Developing and implementation strategy
- Enabling spread and sustainability

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PARTICIPANT & PROJECT INTRODUCTIONS..

1. Name
2. Faculty Position
3. Project Aim/Goal
4. Learners

Introduce yourself and your project idea

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ADULT LEARNING - I

Identifying the need for an Educational Initiative in QI/PS

Knowing Your Learner

Developing Educational Activities

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Overview

- ✓Identify goal (aim) for educational project
- ✓Assess learner needs and stages of learning
- ✓Develop effective educational goals and learning objectives base on learner needs
- ✓Create effective interprofessional teams
- ✓Select effective teaching strategies based on goals/objectives

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Getting an idea

Developing an educational innovation in Quality Improvement/Patient Safety





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Building the Idea

Designing education to match:

-progress of learners from novice to mastery

-desired competencies

-stages of learning

-interprofessional & team-based learning

-principles of effective educational interventions

-educational planning cycle: from objectives to outcomes

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Knowing Your Learner

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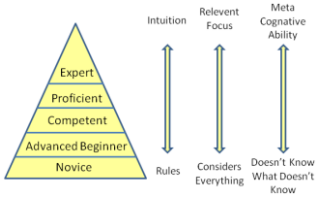
Dreyfus Model: Novice → Expert

Dreyfus and Dreyfus, 1982



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Developmental Stages of Teaching QI/PS

Level	Training Level	Example
Novice	Beginning student	Medical School Years 1&2 • Introductory lectures, web exercises • Group work on case studies
Advanced Beginner	Advanced student	Medical School Years 3&4 • Students apply concepts in a "project" at the academic health center •Teacher is model and "coach"
Competent	Post graduate training	Residency • Apply concepts to his or her own panel of patients in interprofessional team
Proficient	Early practice	Fellowship and Practice • Regularly review and improve care for patients
Expert	Advanced practice	• Develop novel ways to understand and improve systems of care

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Concepts of Competence

Competency is defined as the observable behavior that combines knowledge, skills, values, and attitudes related to a specific activity

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ACGME/ABMS Core Competencies

- Medical Knowledge
- Patient Care
- Interpersonal Communication
- Professionalism
- Systems-based Practice
- Practice-based Learning and Improvement

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The Te4Q QI/PS Proficient Competencies

- Critically evaluate and apply current healthcare information and scientific evidence for patient care
- Systematically analyze practice using quality improvement methods and demonstrate improvements in practice
- Working effectively in health care delivery settings, including identifying systems' issues and improving them
- Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care
- Participate in identifying system errors and implementing potential system solutions (patient safety)
- Work in interprofessional teams to enhance patient safety and improve patient care quality

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The QI/PS Expert Educator Roles

Educational Roles (how to teach)

- ❑ role modeling
- ❑ mentoring, coaching
- ❑ creating experiential learning
- ❑ assessing learner competency
- ❑ evaluating program effectiveness
- ❑ developing curricula
- ❑ effective classroom teaching

Content areas (what to teach)

- ❑ PDSA/LEAN/Six Sigma, etc
- ❑ Working in Teams
- ❑ Data sources, analysis
- ❑ Systems-based thinking
- ❑ Quality measurement/management
- ❑ Patient safety
- ❑ etc, etc

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Teams Matter:
Core Competencies for Interprofessional Collaborative Practice & Education

- Patient/family centered
- Community/population oriented
- Relationship focused
- Process oriented
- Linked to learning activities, education strategies and behavioral assessments
- Able to be integrated the learning continuum
- Sensitive to the systems context/applicable across practice settings
- Applicable across professions
- State in language common and meaningful across the professions
- Outcomes drive

Interprofessional Education Collaborative (IPEC) Report May 2011

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Interprofessional (team) competencies

- Work with others in an interprofessional team to establish and maintain a climate of mutual respect
- Use the knowledge of one's own and others' roles to address patient issues
- Communicate with other health professionals in a responsible manner to maintain health and treat disease
- Participate in different team roles to enhance teams to advance care that is safe, timely, efficient, effective and equitable.

Adapted from Englander et al, *Acad Med 2013*

A Look at Your Self Assessments

Knowing the Teacher Self-Reflection Exercise:

- **What is YOUR stage of QI/PS skill development?**
- **What are your strengths**
- **Which skills need development?**

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Knowing your Learners
Team Think - Share

- Who are your learners?
- What is their stage(s) of learning?
- Based on the above, what are their educational needs (knowledge, teaching skills, etc)?

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BREAK
and evaluations

ADULT LEARNING II:

Educational Program Planning

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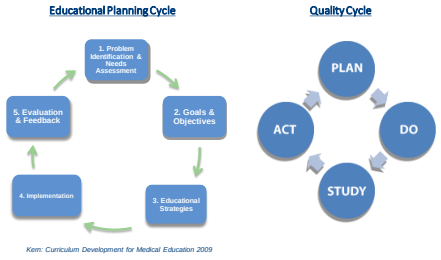
Comparing Educational Planning with Quality Improvement

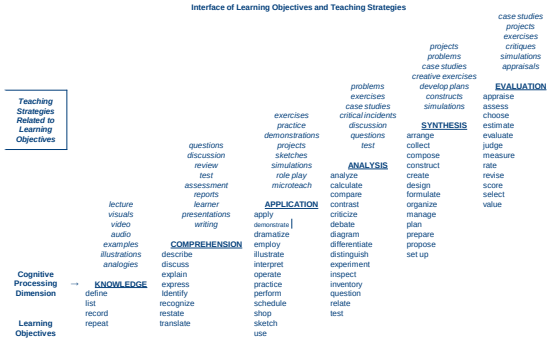


Kern: Curriculum Development for Medical Education 2009

Developing Goals & Objectives

We've identified our problem and level of learner

Goals/Objectives: Make them SMART



Adapted from: Bloom, B.S. (Ed.), Engelhart, M.D., Furst, E.J., Hill, W.H., & Krathwohl, D.R. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook 1: Cognitive domain.* New York: David McKay.
Ellen F. Goldman, EdD 11-1-2010

Writing Educational Objectives

1. Create a stem…
   - After completing the lesson, the learner will be able to . . .
   - After this unit, the learner will have . . .
   - By completing the activities, the learner will . . .
   - At the conclusion of the course/unit/study the learner will . .
2. Add an action verb
   - Use verbs from Bloom's taxonomy list
   - Determine the actual product, process, or outcome.

http://www.educationoasis.com/curriculum/LP/LP_resources/lesson_objectives.htm

Example of Program/Activity Objective

Goal/Aim: 25% of all Internal Medicine and Medicine-Pediatric residents will complete a longitudinal QI project with general internal medicine faculty over the next academic year.

AVOID	CHOOSE
• Vague verbs "Know how to …"	Explain, describe, discuss
• General terms	Be as specific as possible

Examples of Learner Objective

Not so good:

The resident will understand quality improvement methodology and the relevance to their future careers in medicine.

BETTER:

After completing the year-long curriculum, each resident will be able to:

- Define steps of a PDSA cycle (knowledge)
- Explain the importance of quality improvement in medicine (comprehension)
- Perform a RCA (application)
- Diagram a process map (analysis)
- Design a QI project (synthesize)
- Evaluate performance data (evaluation)

A good Te4Q participant's example

After completion of this course the learner will be able to:

define Root Cause Analysis (RCA);
recognize which clinical situations require RCA;
explain why RCA is important;
demonstrate mutual respect on interprofessional teams;
and have performed an interprofessional mock RCA.

What is the highest level of cognitive processing this faculty expects her learners to achieve?

Your Objectives

Develop/refine learning objectives for your educational project in QI/PS

Your Te4Q Educational Initiative Team Think – Share:

- Define/refine your learning objectives for your QI/PS Initiative.
- Share one of your objectives with us, your "consultants"

Educational Strategies

Formats & Techniques

Principles of adult learning….

What the research tells us

Physicians and others not self-aware: objective needs assessment, performance feedback important

Knowledge necessary but not sufficient for change; didactics lousy at changing performance

What works? Interactivity; sequencing; *predisposing, enabling and reinforcing strategies*

'CPD' > conferences; = practice-based tools (reminders, audit-feedback, protocols & training)

Docs pass through stages of learning: *awareness, agreement, adoption to adherence*

...Cochrane reviews, AHRQ/EB reviews, others

Large Group: Interactive Lecturing

Active participation: think-pair-share

Lecturer=**facilitator**, docent, group leader

Widespread use of **case, problems, vignettes**

Flipped classroom: **reading and learning before** the session with application of knowledge at the session

Small Group Problem-Based Learning

- Generally 7-10 learners
- Uses case-based materials to stimulate discussion
- Clear learning objectives, expectations of full participation
- May use a tutor (expert or non-expert), or be self-led
- Very useful for team development

Experiential Learning

Live, real-world experience

- Handoffs
- M&M conferences
- Rounds
- Bedside/Clinic

Simulations

- Role play
- Standardized patients
- Simulation labs
- Cases
- Computerized/games

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Methods for Stage of Learner

Pathman/PRECEED Examples

Stage/Method	Awareness	Agreement	Adoption	Adherence
Predisposing	Lecture Grand rounds			
Enabling		Champions Clinical precepting Problem-based small group	Clinical precepting Simulation	
Reinforcing			Role-play Feedback in practice	Reminders Audit/Feedback

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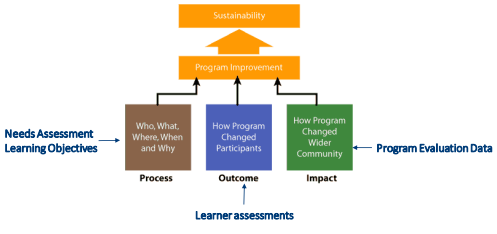
The Big Picture…planning with the end in mind



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EXERCISE: Build Out Your Plan

Begin to think about your educational idea, innovation or plan. ***Consider****:*

- ❑ The learner: stage of learning, motivation, place on the educational continuum
- ❑ The objectives: SMART
- ❑ The educational intervention(s): large-group, small group, experiential, other; pre-readings and preparation; case-based, other resources; curricular design
- ❑ Other questions

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DEVELOPING QUALITY IMPROVEMENT AND PATIENT SAFETY CONTENT

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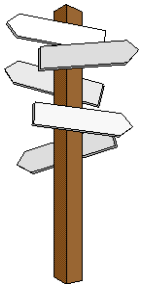

"Excellence is the gradual result of always striving to do better."
-- Pat Riley

"To not just provide care but to also strive to continually improve it" -- Paul Batalden

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"All change is not improvement but all improvement is change"

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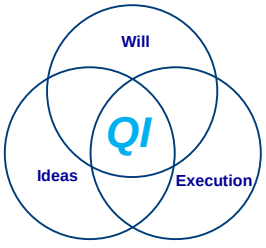
Host Site Quality Priorities

Presented by CMO/CQO or other health system leader

The Primary Drivers of Improvement

Having the ***Will*** (desire) to change the current state to one that is better



Developing ***Ideas*** that will contribute to making processes and outcome better

Having the capacity to apply CQI theories, tools and techniques that enable the ***Execution*** of the ideas

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Ten Challenges to Improvement in Healthcare Quality

1. Convincing people that there is a problem that is relevant to them (overcoming inertia)
2. Convincing them that the solution chosen is the right one
3. Getting data collection and monitoring systems right
4. Excess ambitions and "projectness" (scope creep)
5. Organizational culture, capacities and contexts (fiefdoms)
6. Tribalism and lack of staff engagement (challenging the status quo)
7. Leadership
8. Incentivizing participation and "hard edges"
9. Securing sustainability
10. Risk of unintended consequences

BMJ Quality and Safety, 2012 Oct; 21(10): 876-84. Epub 2012 April 28

Potential Solutions to those 10 Challenges

1. Meaningful communication with data indicative of a need for improvement
2. Leadership commitment and potential for resources allocation
3. Putting the right team together with the correct talent
4. Constantly referring to your Problem and Aim statements to prevent scope creep
5. Courage / Bravery
6. Tenacity
7. Thoughtfulness regarding how suggested changes will impact other departments / individuals / processes
8. Communication with key stakeholders

Two Types of Knowledge

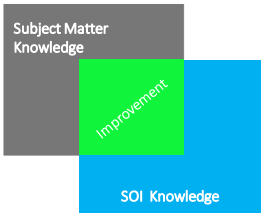
Subject Matter Knowledge

Subject Matter Knowledge:
Knowledge basic to the things we do in life. Professional knowledge.

Science of Improvement:
The Interplay of the theories of systems, variation, knowledge, and psychology.

SOI Knowledge

Improvement occurs when we learn how to combine subject matter knowledge and the science of improvement in creative ways to develop effective ideas for change.



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IHI Eight Knowledge Domains for Improvement of Health Care

1. Health care as a process and system
2. Variation and measurement
3. Customer/beneficiary knowledge
4. Leading, following, and making changes in health care
5. Collaboration
6. Social context and accountability
7. Developing new locally useful knowledge
8. Professional subject matter

Eight Knowledge Domains for Health Professional Students. http://www.ihi.org/offerings/IHIOpenSchool/resources/Pages/Publications/EightKnowledgeDomainsForHealthProfessionStudents.aspx

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Some QI/PS Content Basics

- Understanding the quality care gap
- Quality and Process Improvement
- Patient safety, error science
- Systems thinking and design
- Measurement: data collection and analysis
- Evidence Based Medicine (EBM)
- Cost, value, payment reform
- Teamwork and communication
- Patient Centered Care and Disparities
- Human factors
- Professionalism and just culture
- HIT and clinical informatics
- Implementation science and spreading improvements
- Leadership

Content domains collected from post-graduate QI/PS training programs

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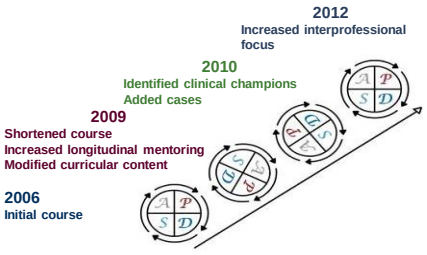
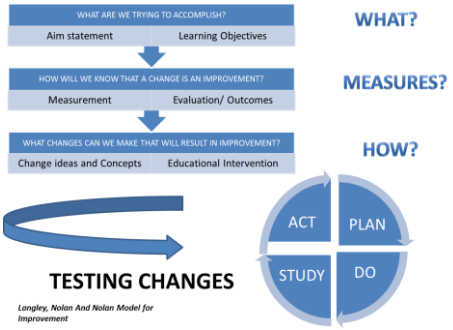
Assessment Drives Learning



Model for Improvement in Education



Guiding Principles

High functioning integrated health systems provide opportunities and obstacles for QI education, but do not guarantee QI knowledge and skill acquisition.

QI education must be planned, monitored and systematically evaluated to assure educational quality and effectiveness.

Faculty preparation and engagement along with alignment of institutional and educational goals are key factors towards long-term success and sustainability.

General Principles for Educational Experiences in Healthcare Improvement

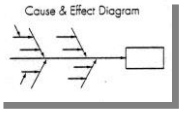
1. The learning experience should be a combination of didactic and project-based work.
2. Link with health system improvement efforts
3. Assess education outcomes
4. Model QI in educational processes

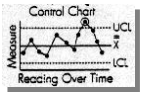
Ogrinc, et al. *Fundamentals of Health Care Improvement: A guide to improving your patients' care.* TJC 2012

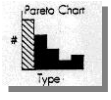
"The Tool Box"

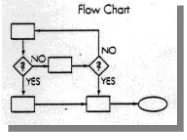
Quality Improvement Tools

Some "Tools" of the Quality Trade









Creating a Problem Statement

•Commonly used in both Academic and Quality / Performance Improvement methodologies.

•Should meet the following criteria:

- Focused only on one problem
- Only one or two sentences long
- Should not suggest a solution
- Unambiguous and devoid of assumptions

Taking Aim

- **Aim statements are very specific declarations of what a team will be focusing on as they strive to improve a process or a system.**
- **They should include a few elements:**
  - **The system to be improved and the population**
  - **A numerical goal (preferably an ambitious "stretch" goal)**
  - **A timeframe**

Example

"Reduce the time from 9-1-1 call to intervention by 50% for all emergent cardiac patients with ST-elevation Myocardial Infarction (STEMI) by June 1, 2009"

•Should provide a clear, specific focus for the improvement goal

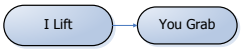
•Can be refined throughout the project, but should not fundamentally change

•Projects tend to drift.

•The Aim Statement should be reviewed at the start of each meeting as a reminder of the team's primary goal.

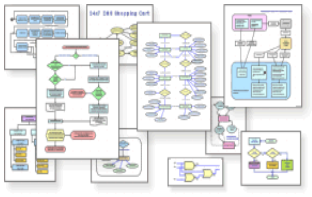
What is a process flowchart?

- Picture of the sequence of steps in a process
- Steps are represented by symbols



Flowchart Types

1. High-Level
2. Deployment
3. Detailed

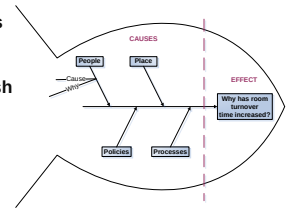


Constructing a Flowchart

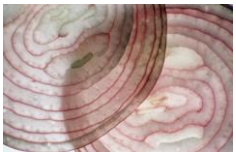
1. Name and date the process
2. Identify beginning & ending points
3. List the steps from beginning to end – high level
4. Observe the process
5. Determine flowchart type and add detail
6. Encourage others to review and contribute
7. Analyze – redesign as appropriate

The fishbone Diagram (aka Cause & Effect)

- Represents relationship between some effect and all of the possible causes influencing it
- Effect listed at head of fish as a question
- List causes on bones
- Developed via team brainstorming



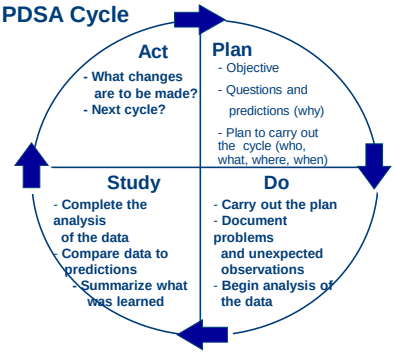
5 Whys



Repeatedly asking "why" peels away the layers of symptoms and leads you to the root cause of a problem.

This is especially helpful when conducting a fishbone session.

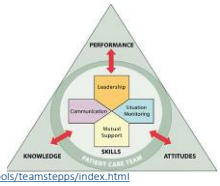
The PDSA Cycle



PI Tools Used During the Improvement Cycle Steps

Tool	Phase in cycle
Cause and Effect	
Fishbone Diagram:	Plan, Study
Flow Charting:	Plan
Timeline Gantt chart:	Plan
Team Tools	
7 step Meeting:	All phases
Brainstorming:	Plan, Study, Act
Multivoting:	Plan
Tools for Work with data	
Control charts	

Teaching Teamwork



- TeamSTEPPS

http://www.ahrq.gov/professionals/education/curriculum-tools/teamstepps/index.html

- Quality and Safety Education for Nurses (QSEN) www.qsen.org

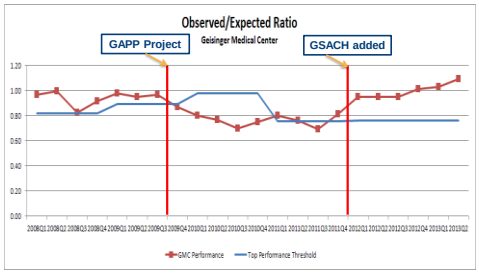
QSEN INSTITUTE

Good QI Projects

1. Definition of the Problem: Clear AIM Statement
2. Population Identification
3. Key Stakeholders: Team Members Roles/Responsibilities
4. Evidence of causal factors (root cause analysis)
5. Data Collection
6. Data Analysis
7. Intervention(s) for Improvement
8. Re-measurement
9. Implementation and evaluation of intervention
10. Dissemination
11. Sustainability

Improvement Opportunity Identified - Mortality

Observed to Expected Ratio

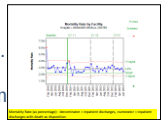


Definition: The percentage of patients expected to die that actually died in the hospital; observed to expected ratio 79

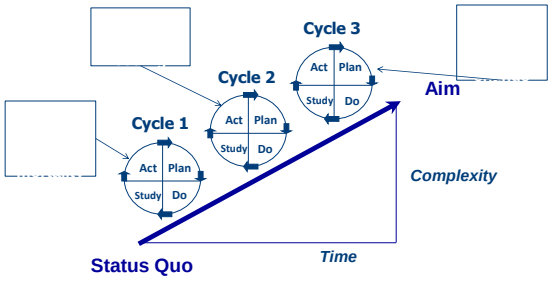
Hypothesis Testing -

What did we think was causing the rise in the O:E ratio?

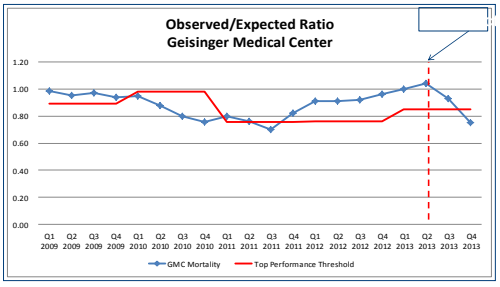
- More people were dying.
  - Nope. Actually the observed mortality was actually going down.
- It was related to GSACH …
  - Nope. If we removed GSACH from data, the trend was still the same.
- Sepsis…
  - Maybe. Weakly correlated.
- Respiratory Failure
  - Maybe. Weakly correlated.
- Palliative Care coding was effecting the expected calculation
  - We have a winner. Highly correlated.



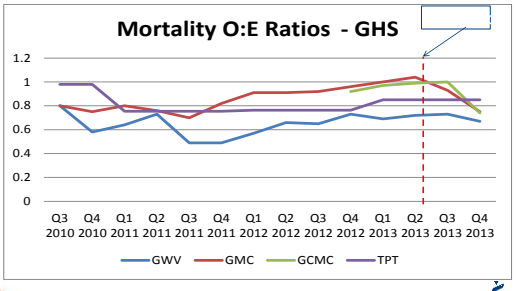
Ramp of Complexity



Mortality Observed : Expected Ratio -



The benefits of being part of a system



Real Life Examples of QI Teaching & Learning

From host organization

Fishbone and the 5 Why's

Handout with clinical scenario – excessive wait times in clinic

Small group activity to fishbone the causes

This role models how we do this

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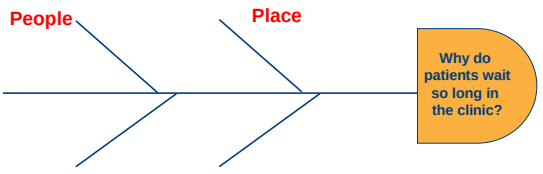
Fishbone



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Build out your plan

- How does your initiative serve the QI
- Priorities of your organization?
- What QI content will you include?
- What action will your learners take?
- What will you expect them to accomplish?

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BREAK

ASSESSING THE IMPACT I

Learner Assessment

Learner Assessment

- Goals of assessment
- Formative vs. summative
- Competency-based assessment
- Methods
- Classroom vs. clinical settings
- Working with problem learners

Purpose of Assessment

- Measure how learners are progressing toward the educational goals
- Information for program evaluation and improvement
- Scholarship

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Formative vs. Summative Assessment

Formative	Summative
Feedback during learning to improve learner performance	**Conducted at the end of a learning activity to assess success of the educational intervention**
Internal evaluator	External evaluator
Informal	Valid/reliable
Frequent	Limited
Identify strengths/weaknesses	Document competency

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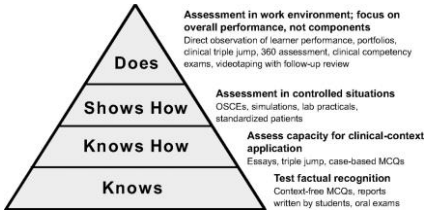
Evaluating Levels of Competency (Using Miller's Pyramid)



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Modified Kirkpatrick Levels of Evaluation

Level	Description	Method of Assessment
1	Learners' feedback about the learning experience	Satisfaction surveys Focus groups
2a	Changes in learners' attitudes and/or perceptions	Discussion: Group or 1:1 360 Feedback
2b	Changes in learners' knowledge/skills	Chart Stimulated recall Written tests Simulation
3	Learners' transfer of learning to the practice setting	Learning logs Chart Review Standardized Patients Assigned conference presentations
4a	Change in organizational practice	Systems changes System Performance Policy changes Measurement
4b	Improvements in health or well-being of patients/clients	Individual patient or population outcomes

Level 2a: Modification of Attitudes/Perceptions

Pre/post assessment
- Quality
- Safety
- Interprofessional teamwork

Paucity of validated instruments
- RIPLS: Readiness for Interprofessional Learning

Level 2b - Acquisition of knowledge/skills

Direct measurement of evidence that learners have achieved stated goals/objectives
- Written assessments
- Project presentations
- Learner critical reviews of others' work
- Faculty/sponsor assessments

Pre/post often helpful

What about self-assessment?

Level 3 - Behavioral change

Direct observations
- Checklist-driven ratings of learner performance
- Supervisor feedback
- Peer/others' feedback

Other documentation

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Linking Assessment to Core Competencies

Competency	Assessment Method
Medical Knowledge	Chart Stimulated recall Written tests
Patient Care	Chart review Standardized patients Portfolio Simulation
Interpersonal Skills & Communication	360 Feedback Standardized patients
Professionalism	360 Feedback Standardized patients
Systems-based Practice	Chart review 360 feedback
Practice based learning & Improvement	Learning logs Assigned conference presentations

Adapted from Practical Guide to Evaluation of Clinical Competence. E Holmboe, R Hawkins 2008

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Focus on Clinical Learning Assessment

- Written exams to assess knowledge
- Practice audit/Clinical record review/Chart Stimulated recall
- Multisource Feedback (360 degree evaluation)
- Portfolios
- Simulation
- Direct observation using Standardized Patients
- Direct observation in clinical setting

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Build out your plan: Learner Assessment Strategies

Based on your learning objectives, how will you assess what your learners have accomplished?

Consider:

- Modification of learner attitudes/perceptions
- Acquisition of knowledge/skills
- Behavioral change

Share Your Results

Reflection & Feedback

ASSESSING THE IMPACT II

Program Evaluation

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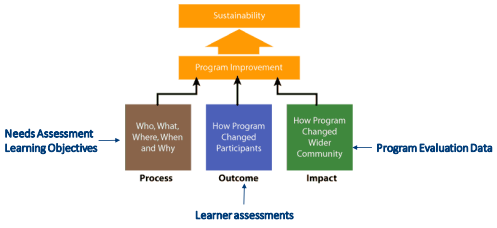
Back to the Big Picture



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Modified Kirkpatrick Levels of Evaluation: From the program evaluation perspective

Level	Description	Method of Assessment
1	Learners' feedback about the learning experience	Satisfaction surveys Focus groups
2a	Changes in learners' attitudes and/or perceptions	Discussion: Group or 1:1 360 Feedback
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Level 1: Reaction

Learner feedback

Learner participation

New

Consider also feedback from other stakeholders

- Faculty
- Project sponsors
- Organizational leaders

Level 4a – Change in organizational practice

Changes in policies/procedures

Spread/sustainability of educational program

Improvements in care processes

Reduction in costs

Level 4b – Benefits to Patients

Clinical outcomes

Patient satisfaction

Can you measure this?

Can you make the link to your activity?

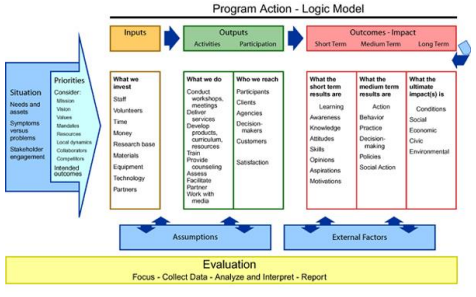
Program Evaluation Elements

Evaluation Domain	Metric(s) examples
Learner Satisfaction	Course evaluation of learner satisfaction
Learner accomplishment: Knowledge/Attitude/Skills	Learner assessment tools based on cognitive dimensions* *Bloom's Taxonomy
Organizational Objectives --Quality/Patient Safety priorities --Accreditation requirements	Improvement in System's quality measures Activity contributes to accreditation requirements for LCME/ ACGME/ACCME/Others
Patient Outcomes	Improved patient outcomes based on specified measures
Cost Effectiveness	Value of educational programming related to outcomes
Spread of programming	Expansion of initiatives to other clinical areas; Implementation of additional activities
Sustainability	Repeat of activities in future years, venues, learner groups

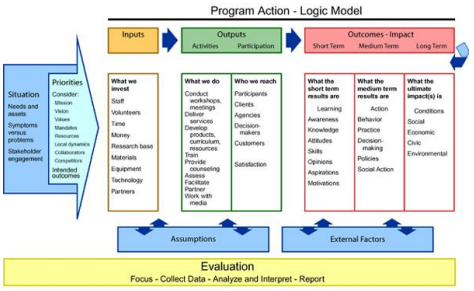
Academic/Scholarly Outcomes

Purpose	Stakeholder	Desired Result	Measurement
Program improvement	Course faculty	Improved Student satisfaction	End-of-course student feedback
Program sustainability	Curriculum Committee Academic Leadership	Improved student knowledge/ skills Increased Resident participation Improved resident attitudes toward patient safety Ideas for improvements in care generated and implemented	Faculty assessments of students' achievement of course objectives, as demonstrated in project presentations Log of improvement ideas, actions and results Leadership perceptions
Scholarship	Medical Education Implementation Science Quality Improvement scholars Journal editors	Improvements in QI/PS educational methods Improved impact/clinical outcomes Improvement in QI/PS education nationally Better understanding of the relationship of medical education, implementation and quality science	Publications in peer reviewed journals Presentations at regional/national meetings Adoption of curriculum at external organization

Logic Model



Logic Model



Developing a logic model

Using the Logic Model in Program Evaluation

Program Evaluation is not only essential to analyzing and documenting the efficacy of a program, it also serves to gather and collect relevant information for use in the continuous improvement process. Utilizing a logic model or similar framework will allow you to document your outcomes, learn from your program, and produce more effective programming overall. Below are a few specific ways a Logic Model may support your program:

In Program Design and Planning:
In addition to serving as an organizational framework, a Logic model can be used as a planning tool for developing strategy and communicating key concepts and approaches to stakeholders and leadership.

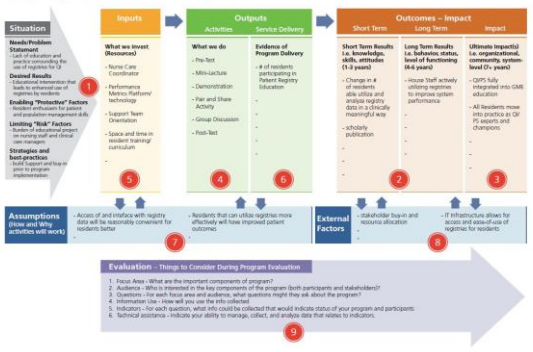
In Program Implementation:
Logic Models help outline resources and activities necessary to the goals of the program.

In Program Evaluation:
Logic Models visually present program information and the progress towards core goals. Logic models also help to inform and educate stakeholders on project outcomes, as well as particular project goals or approaches, strengthening the case for investment into the program.

***Acknowledgement:** The logic model below was adapted from the W.K. Kellogg Foundation's "Logic Model Development Guide", a publication that serves to educate the general public on utilizing the model. For more information on Logic Models, please visit http://www.wkkf.org/resource-directory/resource/2006/02/wk-kellogg-foundation-logic-model-development-guide.*

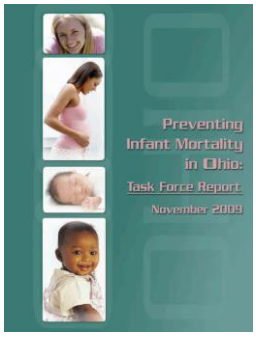
The numbers in the colored circles provide a step by step process for working through the Logic Model effectively:

First Step 1 → Final Step 9



Ohio Infant Mortality Task Force

Published a report in November 2009:



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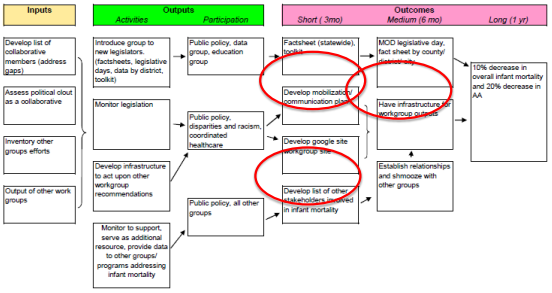
Ohio Collaborative to Prevent Infant Mortality

Robert F. Flora, MD, MBA, MPH
Co-Chair, Collaborative Executive/Steering Committee

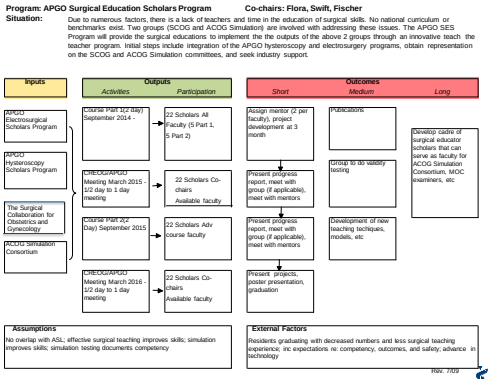
Jo M. Bouchard, MPH
Chief, Bureau of Child and Family Health Services
Ohio Department of Health

Logic Model



APGO Surgical Education Scholars (SES) Program

Robert F Flora, MD, MBA, MPH
John Fischer, MD
Steve Swift, MD



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A logic model is…

- A depiction of a program showing what the program will do and what it is to accomplish.
- A series of "if-then" relationships that, if implemented as intended, lead to the desired outcomes
- The core of program planning and evaluation

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Simplest form

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Logic models can be applied to:

- a small program
- a process (i.e. a team working together)
- a large, multi-component program
- or even to an organization or business

"If you don't know where you are going, how are you gonna' know when you get there?"

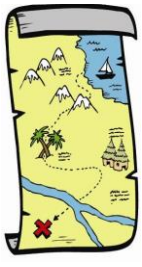
Yogi Berra

Where are you going?

How will you get there?

What will show that you've arrived?

Many people say a logic model is a road map



A bit of history

Dates to late 1960's
Current accountability demands;
logic model in widespread use

- Public Sector - GPRA
- Non-Profit Sector
- Private Sector
- International Agencies
- Evaluation

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Why the hype? What's the benefit?

- Focus on and be accountable for what matters – OUTCOMES
- Provides common language
- Makes assumptions EXPLICIT
- Supports continuous improvement
- Promotes communications

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Logic modeling is a way of thinking… not just a pretty graphic

"We build the road and the road builds us."
-Sri Lankan saying

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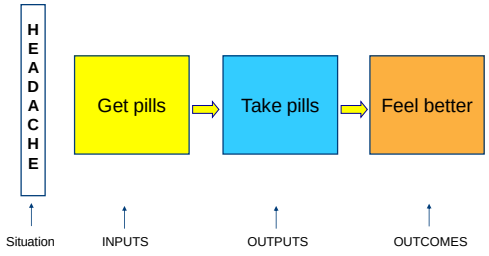
Everyday example



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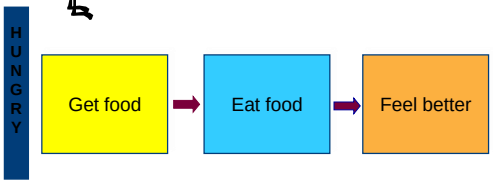
Everyday example



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Assumptions

Assumptions underlie much of what we do. It is often these underlying assumptions that hinder success or produce less-than-expected results. One benefit of logic modeling is that it helps us make our assumptions explicit.

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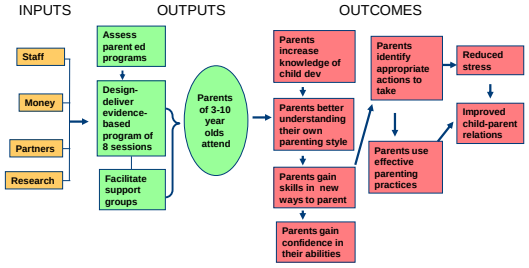
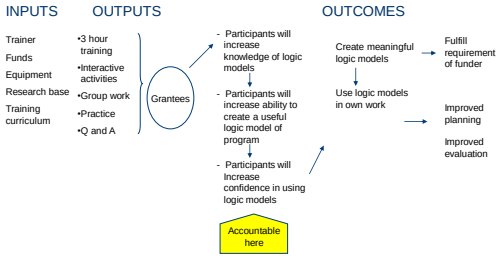
Parent Education Program – Logic model

SITUATION: During a county needs assessment, majority of parents reported that they were having difficulty parenting and felt stressed as a result



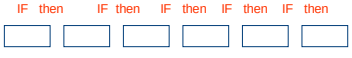
Logic model of a training workshop

Situation: Funder requires grantees to include a logic model in their funding request; grantees have limited understanding of logic models and are unable to fulfill the funding requirement

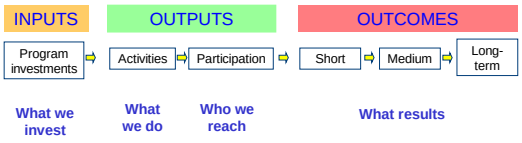


If-then relationships

Underlying a logic model is a series of 'if-then' relationships that express the program's **theory of change**

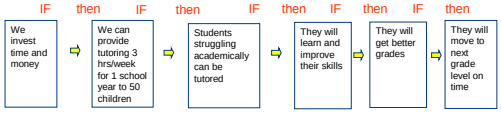


Logical chain of connections showing what the program is to accomplish



How will activities lead to desired outcomes? A series of if-then relationships

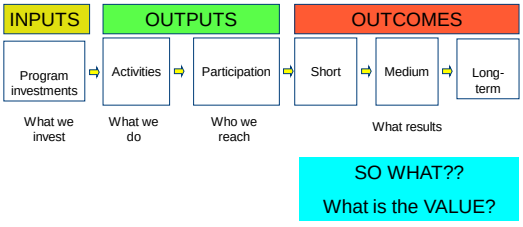
Tutoring Program Example



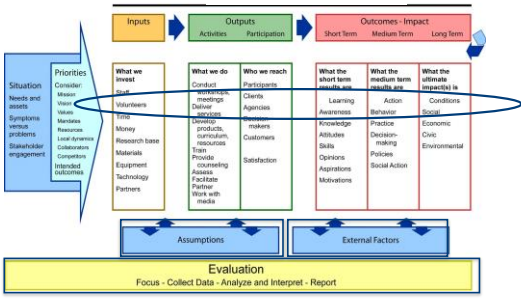
Don't forget the arrows

- Arrows and feedback loops show the links between inputs, outputs and outcomes
- Arrows depict the underlying causal connections

A bit more detail



Fully detailed logic model



Defining the Situation: Critical first step in logic model development

What **problematic** condition exists that demands a **programmatic** response?

- Why does it exist?
- For whom does it exist?
- Who has a stake in the problem?
- What can be changed?

If incorrectly understood and diagnosed, everything that flows from it will be wrong.

Factors affecting problems: protective factors; risk factors

Review research, evidence, knowledge-base

Traps:

- Assuming we know cause: symptoms vs. root causes.
- Framing a problem as a need where need is actually a program or service. "Communities need leadership training" Precludes discussion of nature of the problem: what is the problem? Whose problem? Leads one to value provision of the service as the result – is the service provided or not?

Inputs
What we invest Staff Volunteers Time Money Research base Materials Equipment Technology Partners

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OUTPUTS	
What we do	Who we reach
ACTIVITIES	**PARTICIPATION**
•Train, teach •Deliver services •Develop products and resources •Network with others •Build partnerships •Assess •Facilitate •Work with the media •…	•Participants •Clients •Customers •Agencies •Decision makers •Policy makers Satisfaction

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OUTCOMES *What results for individuals, families, communities…..*		
SHORT ***Learning***	**MEDIUM** ***Action***	**LONG-TERM** ***Conditions***
Changes in • Awareness • Knowledge • Attitudes • Skills • Opinion • Aspirations • Motivation • Behavioral intent	Changes in •Behavior •Decision-making •Policies •Social action	Changes in Conditions Social (well-being) Health Economic Civic Environmental
CHAIN OF OUTCOMES →		

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Language: What do you mean by…

- Goal = Impact
- Impact = Long-term outcome
- Objectives (participant focused) = Outcomes
- Activities = Outputs
  - Outputs may signify "tangible" accomplishments as a result of activities; products

Goal – outcome definition

Goal represents a general, big-picture statement of desired results. "We find that it is useful to think of **goals** as the answer to the question 'What are issues that you would like the program to address?' (e.g., the goal of the program is to address existing community laws and norms about ATOD use) and **outcomes** as the answer to: 'What changes do you want to occur because of your program?' (e.g., the outcome of the program will be to increase the number of community residents who believe teenaged smoking is dangerous)."

(Western CAPT)

Outputs vs. Outcomes

Example:
Number of patients discharged from state mental hospital is an output.
Percentage of discharged who are capable of living independently is an outcome

Not how many worms
the bird feeds its young,
but how well the fledgling flies

(United Way of America, 1999)

Program	Outputs	Outcomes
Crime control	Hrs of patrol # responses to calls # crimes investigated Arrests made	Reduction in crimes committed Reduction in deaths and injuries resulting from crime; Less property damaged or lost due to crime
Highway construction	Project designs Highway miles constructed Highway miles reconstructed	Capacity increases Improved traffic flow Reduced travel times Reduction in accidents and injuries

From Poister, 2003

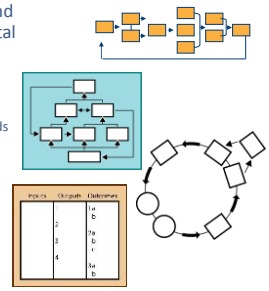
LM Benefits: What we are finding:

- Provides a common language
- Helps us differentiate between "what we do" and "results" --- **outcomes**
- Increases understanding about program
- Guides and helps focus work
- Leads to improved planning and management
- Increases intentionality and purpose
- Provides coherence across complex tasks, diverse environments

- Enhances teamwork
- Guides prioritization and allocation of resources
- Motivates staff
- Helps to identify important variables to measure; use evaluation resources wisely
- Increases resources, opportunities, recognition
- Supports replication
- Often is required!

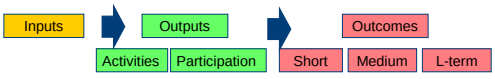
What does a logic model look like?

- Graphic display of boxes and arrows; vertical or horizontal
  - Relationships, linkages
- Any shape possible
  - Circular, dynamic
  - Cultural adaptations; storyboards
- Level of detail
  - Simple
  - Complex
- Multiple models
  - Multi-level programs
  - Multi-component programs

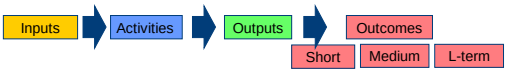


Common variations

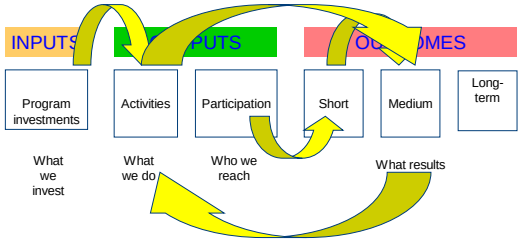
UWEX logic model



Other common logic model used by United Way, Center for Disease Control and others



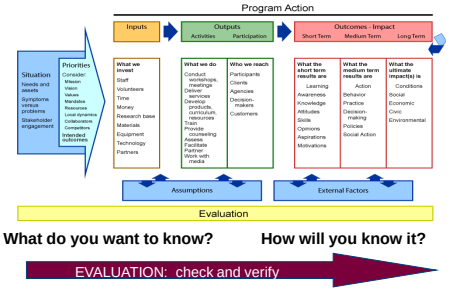
Feedback loops and multi-dimensions



Check your logic model

1. Is it meaningful?
2. Does it make sense?
3. Is it doable?
4. Can it be verified?

Logic model in evaluation



Logic Model helps with Evaluation

Provides the program description that guides our evaluation process

- Helps us match evaluation to the program
- Helps us know what and when to measure
  - Are you interested in process and/or outcomes?
- Helps us focus on key, important information
  - Prioritize: where will we spend our limited evaluation resources?
  - What do we really need to know??

Logic model and common types of evaluation

Types of evaluation

Needs/asset assessment:

What are the characteristics, needs, priorities of target population?

What are potential barriers/facilitators?

What is most appropriate to do?

Process evaluation:

How is program implemented?

Are activities delivered as intended? Fidelity of implementation?

Are participants being reached as intended?

What are participant reactions?

Outcome evaluation:

To what extent are desired changes occurring? Goals met?

Who is benefiting/not benefiting? How?

What seems to work? Not work?

What are unintended outcomes?

Impact evaluation:

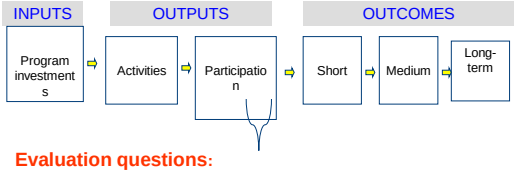
To what extent can changes be attributed to the program?

What are the net effects?

What are final consequences?

Is program worth resources it costs?

Match evaluation questions to program



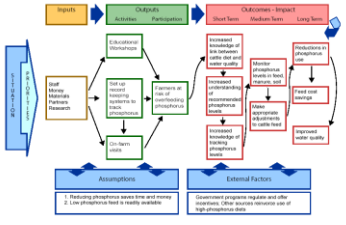
Evaluation questions:

What questions do you want to answer?
e.g., accomplishments at each step; expected causal links; unintended consequences or chains of events set into motion

Indicators:

What evidence do you need to answer your questions?

What do you want to know about your program?



Evaluation: What to measure – when?

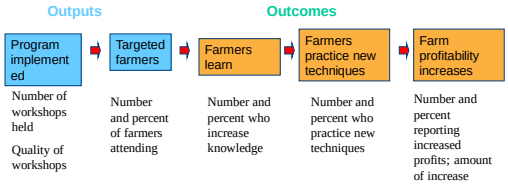
What amount of $ and time were invested?	What did the program actually consist of?	Who actually participated in what? Did this meet our target?	To what extent did knowledge and skills increase?	To what extent did practices change?	To what extent did phosphorus reduce? Savings accrue to farmers?

Identify indicators

- How will you know it when you see it?
- What will be the evidence?
- What are the specific indicators that will be measured?

- Often expressed as #, %
- Can have qualitative indicators as well as quantitative indicators

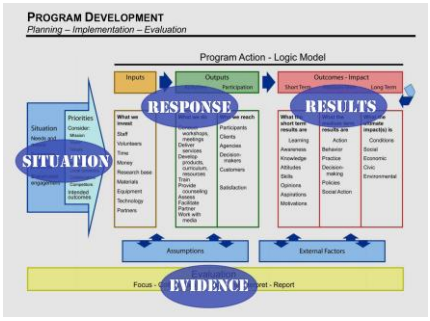
Logic model with indicators for Outputs and Outcomes

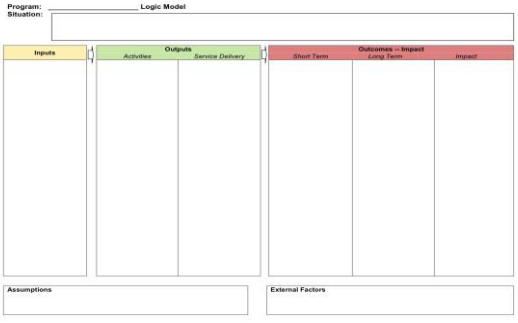


Data collection plan

Questions	Indicators	Data collection			
		Sources	Methods	Sample	Timing

Logic model and reporting





Build out your plan: Program Evaluation

- Identify
  - Purpose of the program evaluation plan
  - Target audience(s)/Stakeholders
  - Desired result
  - Ideas for measurement
- First work as a group at your table, using one participant's project as an example (15 min)
- Work on your own, using the results to complete the "Program Evaluation" section of the project template (15 min)

Making the Case & Leading the Change

Objectives for this session

1. Create a strategy for creating change necessary to implement your educational initiative
2. Develop an initiative implementation plan that includes identifying stakeholders and champions
3. Identify (and develop a plan for overcoming) barriers
4. Describe leadership skills that can effectively manage the human factors
5. Making the case for change in your organization

Conditions for change: 8 steps of Kotter

STEP 1: Establishing a sense of urgency

: Forming a powerful guiding coalition
Creating a vision
Communicating the vision
Empowering others to act on the vision
Planning for and creating short term wins
Consolidating improvements; producing more change
Institutionalizing new approaches

Kotter, J. P. (1999). *On what leaders really do*. Boston: Harvard Business School Press.

The conditions for change step one: Establishing a sense of urgency

Medical Education Curriculum

Institute of Medicine Committee on the Health Professions, Health Professions Education. A Bridge to Quality. Washington D.C.: The National Academies Press; 2003.

Graduate Medical Education

Nasca TJ, Philibert I, Brigham T, Flynn TC. The next GME accreditation system--rationale and benefits. N Engl J Med. 2012;366(11):1051-1056.

Patient Safety	Supervision
Quality Improvement	Duty hours/fatigue
Transitions of Care	Professionalism

URGENCY...

3rd Leading Cause of Death

How Many Die From Medical Mistakes in U.S. Hospitals?

Why educate to sustain the change?

In an industry that is plagued by negative press coverage and pessimism, it is crucial that we do not lose momentum and sow deeper frustration.

5 Million Lives Campaign. Getting Started Kit: *Rapid Response Teams*. Cambridge, MA: Institute for Healthcare Improvement; 2008. (ww.ihi.org)

What has worked to drive and sustain change in the clinical domains?

1. Supportive Management Structure
2. Structures to "Foolproof" Change
3. Robust, Transparent Feedback Systems
4. Shared Sense of the Systems to Be Improved
5. Culture of Improvement and a Deeply Engaged Staff
6. Formal Capacity-Building Programs

5 Million Lives Campaign. Getting Started Kit: *Rapid Response Teams*. Cambridge, MA: Institute for Healthcare Improvement; 2008. (www.ihi.org)

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Worksheet for Teaching Quality/safety

1. State the vision for teaching Q/S in your clinical learning environment; why Q/S and why now.
2. Develop the strategy in the context of your CLE.
3. Choose the global and more specific aims.
4. Leverage existing functional organizational infrastructure, identify and build on synergies, create new structures as needed.
5. Identify processes to integrate and sustain your activity.

Five system questions for building strategy

What are your aspirations? Your vision

Where will you execute? Your CLE

How will you succeed? Your strategy

What capabilities do you need to have?

What systems must be in place?

Roger Martin
Don't let Strategy become Planning
HBR Blog
February 2013

Strategy for Te4Q

Vision: What is the direction and scope over the long term?

Prepare professionals to lead, design and evaluate effective learning in Q/S across the continuum of health professions development

Strategy: How do we get to this goal?

Tip: Strategy is not planning
Not a list of steps and timelines
It is an integrated set of choices that will direct you to your goal.

Strategy for Te4Q

Vision: What is the direction and scope over the long term?

Strategy:

Q: What are the barriers to Te4Q?
Q: What are the synergies?

Developing Your Plan

Exercise: Write down notes.

Strategy to implement your Te4Q

- How will you succeed?
- What capabilities do you need?
- What systems must be in place?

Discuss in small groups: Focus on one or two things.

What will you do for the rest of this year and next?

IPE Competencies

Values/Ethics for Interprofessional Practice

Act with honesty and integrity in relationships with patients, families, and other team members.

Roles/Responsibilities for Collaborative Practice

Communicate one's roles and responsibilities clearly to patients, families, and other professionals.

Interprofessional Communication

Express one's knowledge and opinions to team members involved in patient care with confidence, clarity, and respect, working to ensure common understanding of information and treatment and care decisions.

Interprofessional Teamwork and Team-Based Care

Engage other health professionals—appropriate to the specific care situation—in shared patient-centered problem-solving.

Interprofessional Education Collaborative Expert Panel. (2011) *Core competencies for interprofessional collaborative practice: Report of an expert panel.* Washington,D.C: Interprofessional Education Collaborative

Leverage existing functional organizational infrastructure, identify and build on synergies, create new structures as needed

Q: What people, committees or structures exist now that you can leverage?

Team Work Basics

Considerations for Building Your Team

187

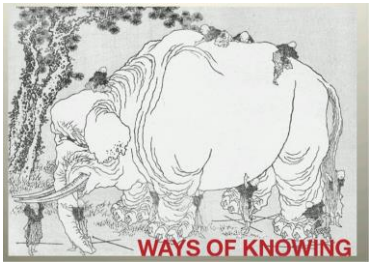
Team Ground Rules

As members

- Attendance is expected
- Actively participate
- Follow through with assignments
- Share information and seek input outside of meeting
- Be respectful of all members and their opinions
- Keep side conversations to a minimum

Yellow card

We are all on different parts of the elephant



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Team tools

http://www.youtube.com/watch?v=K9nFhs5W8o8

Ladder of Inference

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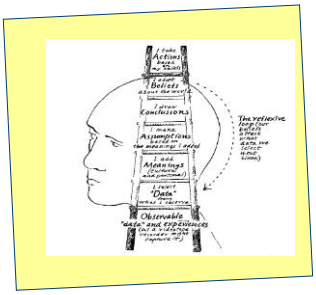
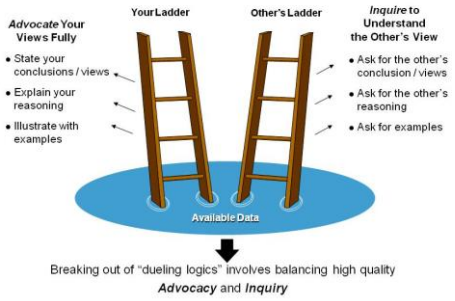
The Ladder of Inference



Argyris & Schon

AAMC

Breaking Out of the Trap



Breaking out of "dueling logics" involves balancing high quality ***Advocacy*** and ***Inquiry***

Three ways to use the Ladder

1. Become more aware of your own thinking and reasoning
2. Making your thinking and reasoning more visible to others
3. Inquiring into others' thinking and reasoning

Seek to balance all three ways to increase productive dialogue over time within the context of an ongoing relationship

Being a Good Leader

Leadership for Quality

Goal

Work with people and systems to produce needed **change**

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Leadership for Quality

Goal

Work with people and systems to produce needed change

Manage Conflict

Manage Complexity

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Leadership for Quality

Goal

Work with people and systems to produce needed change

Manage Conflict

Manage Complexity

Stay positive

Acknowledge & Address barriers

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Principles of Effective Leadership

Being - Authentic embodiment of core values

- Someone who adds energy to team, rather than drains it out
- Trustworthy: consistent in thought & word
- Humble
- Focused on results, NOT popularity
- Builds relationships
- Committed to the mission
- Passionate

Principles of Effective Leadership

Doing - Understand the system context for the improvement work being done

- Explain how the work fits into the aims of the whole system
- Use and teach improvement methods
- Explain and challenge the current reality
- Inspire a shared vision
- Model the way
- Manage complex projects

Making the Case: The Value Proposition

Market – for what population are you creating this value proposition? Dean? CEO?

Customer Experience—what does this stakeholder and/or learners value most? Accreditation? Student satisfaction? Improved quality of care?

Offering—what products or services are you offering? One-time educational activity? Longitudinal course? QI-based project?

Benefits—what are the benefits your 'customers' will derive from your product?

Making the Case: The Value Proposition

Alternative and Differentiation—what other options does the 'market' have? Other courses? Other projects? How is yours different?

Proof—what evidence is there that you can do what you say you will do? Is your plan sound?

Capability—what is it you do and how do you do it?

Impact—what benefits or difference will you project make?

Cost—what is the cost (or risk) of your project?

Your Elevator Pitch

1:00 Minute GO!

Academic Leadership

"CLER" understanding of your learning environment—its not just for GME

Is QI/PS priority in medical education?

Recognition of scholarly activity

- Publishing?
- P & T policies

Reflection

NEXT STEPS:

IMPLEMENTATION & DISSEMINATION of your project

Implementation

Your Plan

- Use your project plan template
- Timeline
- Potential Barriers/Challenges
- Collaborators
- Resources
- Formative feedback
  - Peers
  - Learners

Exercise

1. Walk through your plan
2. Make revisions/refinements
3. Peer Feedback
4. Revise again

Teaching for Quality (Te4Q)

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Dissemination

Presentations

- Central GEA
- AAMC Integrating Quality (IQ) meeting June
- AAMC National Medical Education meeting-Nov
- Faculty Development—internal/external
- Specialty organizations
- Others?

Teaching for Quality (Te4Q)

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Dissemination

Publications

- Internal communications
- Non-peer-reviewed newsletters, etc
  -MedEdPortal iCollaborative
- Peer-reviewed
  - Academic Medicine
  - Specialty educators' journals
  - Teaching in Medicine
  - On-line journals—Education/Specialty
  - Quality journals
  - MedEdPORTAL Peer Reviewed Pubs

Teaching for Quality (Te4Q)

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Discussion

Your Plan

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And, lastly…

Evaluation: we need your feedback

On-going coaching/assistance

Project presentations

- Peer feedback
- Faculty feedback
- What's working? Barriers?

Workbook review/feedback

Teaching for Quality (Te4Q)

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